

## § 1065.601

the filter to a PM-stabilization environment meeting the specifications of § 1065.190 for at least 30 minutes before weighing. If you expect a higher PM concentration or do not know what PM concentration to expect, expose the filter to the stabilization environment for at least 60 minutes before weighing. Note that 400 µg on sample media (e.g., filters) is an approximate net mass of 0.07 g/kW-hr for a hot-start test with compression-ignition engines tested according to 40 CFR part 86, subpart N, or 50 mg/mile for light-duty vehicles tested according to 40 CFR part 86, subpart B.

(f) Repeat the procedures in § 1065.590(f) through (i) to determine post-test mass of the sample media (e.g., filters).

(g) Subtract each buoyancy-corrected tare mass of the sample medium (e.g., filter) from its respective buoyancy-corrected mass. The result is the net PM mass,  $m_{PM}$ . Use  $m_{PM}$  in emission calculations in § 1065.650.

### Subpart G—Calculations and Data Requirements

#### § 1065.601 Overview.

(a) This subpart describes how to—

(1) Use the signals recorded before, during, and after an emission test to calculate brake-specific emissions of each regulated constituent.

(2) Perform calculations for calibrations and performance checks.

(3) Determine statistical values.

(b) You may use data from multiple systems to calculate test results for a single emission test, consistent with good engineering judgment. You may not use test results from multiple emission tests to report emissions. We allow weighted means where appropriate. You may discard statistical outliers, but you must report all results.

(c) You may use any of the following calculations instead of the calculations specified in this subpart G:

(1) Mass-based emission calculations prescribed by the International Organization for Standardization (ISO), according to ISO 8178.

(2) Other calculations that you show are equivalent to within ±0.1% of the brake-specific emission results determined using the calculations specified in this subpart G.

EFFECTIVE DATE NOTE: At 73 FR 37324, June 30, 2008, § 1065.601 was amended by revising paragraph (c)(1), effective July 7, 2008. For the

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convenience of the user, the revised text is set forth as follows:

#### § 1065.601 Overview.

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(c) \* \* \*

(1) Mass-based emission calculations prescribed by the International Organization for Standardization (ISO), according to ISO 8178, except the following:

(i) ISO 8178-1 Section 14.4, NO<sub>x</sub> Correction for Humidity and Temperature. See § 1065.670 for approved methods for humidity corrections.

(ii) ISO 8178-1 Section 15.1, Particulate Correction Factor for Humidity.

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#### § 1065.602 Statistics.

(a) *Overview.* This section contains equations and example calculations for statistics that are specified in this part. In this section we use the letter “y” to denote a generic measured quantity, the superscript over-bar “ $\bar{\phantom{y}}$ ” to denote an arithmetic mean, and the subscript “<sub>ref</sub>” to denote the reference quantity being measured.

(b) *Arithmetic mean.* Calculate an arithmetic mean,  $\bar{y}$ , as follows:

$$\bar{y} = \frac{\sum_{i=1}^{10} y_i}{N} \quad \text{Eq. 1065.602-1}$$

*Example:*

$N = 3$

$y_1 = 10.60$

$y_2 = 11.91$

$y_N = y_3 = 11.09$

$$\bar{y} = \frac{10.60 + 11.91 + 11.09}{3}$$

$\bar{y} = 11.20$

(c) *Standard deviation.* Calculate the standard deviation for a non-biased (e.g.,  $N-1$ ) sample,  $\sigma$ , as follows:

$$\sigma_y = \sqrt{\frac{\sum_{i=1}^N (y_i - \bar{y})^2}{(N-1)}} \quad \text{Eq. 1065.602-2}$$

*Example:*

$N = 3$

$y_1 = 10.60$

$y_2 = 11.91$